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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,450	06/13/2001	Kenneth James Barker	CH9920000031US1	5180

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EXAMINER	
NGUYEN, STEVEN H D	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/880,450	BARKER ET AL.	
	Examiner	Art Unit	
	Steven HD Nguyen	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-11 and 13-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *23-28* is/are allowed.

6)☒ Claim(s) *2-11 and 13-21* is/are rejected.

7)☒ Claim(s) *11 and 22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 16-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims are vague and indefinite because they depend on the canceled claim 12. Since, these claims are incomplete. Therefore, the examiner treats these claims as the canceled claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 2-6 and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Solheim (USP 6522671).

Regarding claims 2 and 13, Solheim discloses a method and device (Fig 2) for combining at least two data signals having an input data rate into a single data stream having an output data

rate being higher than the input data rate for transmission on a shared medium or vice versa (Col 1, line 60 to col. 2, line 2-42, said device comprising at least two ports (Fig 2, Ref 202, 206, 204 and 208 and Fig 4) for receiving said at least two data signals, a port scanning unit (Fig 2, Ref 110) for extracting data from the data signals received by said ports providing data streams having at least two different input data rates (Fig 2, Ref 110 for extracting the data information from the FiFo 206 and 208, Col. 3, line 44 to col. 4, line 46, Col. 5, lines 1-65). a control logic unit functionally connected to said port scanning unit for determining which of said at least two ports need to be handled within which clock cycle with regard to its input data rate (Fig 2, Ref 210 is inherently disclose a control unit for receiving the fill levels of the buffers of the ports and generating the read signals for transmitting to the buffers of the ports for reading the data information based on the fill level of the buffers and the output clock cycle of the output interface, Fig 2, Ref 216 and See col. 4, lines 10-26).

Regarding claims 3 and 14, Solheim discloses the control logic unit is configured to control said port scanning unit to access a port having a higher input data rate proportionally more often than a port having a lower input data rate (See col. 4, lines 10-26 and Fig 2, Ref 210 will access the higher input rate port OC-12 more frequently than the lower input rate port OC-3 based on the received fill levels, See col. 7, lines 41-64 See col. 7, lines 41-61, each FIFO is assigned some read cycles for using to read the data into mapper device with higher rate is assigned more read cycle than the lower rate).

Regarding claims 4 and 15, Solheim discloses a method and device (Fig 2) for combining at least two data signals having an input data rate into a single data stream having an output data rate being higher than the input data rate for transmission on a shared medium or vice versa (Col

1, line 60 to col. 2, line 2-42, said device comprising at least two ports (Fig 2, Ref 202, 206, 204 and 208 and Fig 4) for receiving said at least two data signals, a port scanning unit (Fig 2, Ref 110) for extracting data from the data signals received by said ports providing data streams having at least two different input data rates (Fig 2, Ref 110 for extracting the data information from the FiFo 206 and 208, Col. 3, line 44 to col. 4, line 46, Col. 5, lines 1-65) and at least two demultiplexing units for converting said at least two data signals into a parallel data stream of a predetermined width (Fig 2, Ref 202 and 204).

Regarding claim 5, Solheim discloses comprising at least two storage units (Fig 2, Ref 206 and 208) each functionally connected to said port scanning unit (Fig 2, ref 110) and one of said demultiplexing units for temporarily storing data (Fig 2, Ref 202).

Regarding claim 6, Solheim discloses the storage unit is formed by a FIFO and said FIFO is configured to operate with a speed corresponding to the input data rate of the connected port (Fig 2, Ref 202 and col. 5, lines 1-37, the data information is written into FIFO based on the input rate of the input signal).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 7-10 and 18-21 rejected under 35 U.S.C. 103(a) as being unpatentable over Solheim (USP 6522671) in view of Goodman (USP 6636529).

Regarding claims 7-8 and 18-19, Solheim discloses a method and device (Fig 2) for combining at least two data signals having an input data rate into a single data stream having an output data rate being higher than the input data rate for transmission on a shared medium or vice versa (Col. 1, line 60 to col. 2, line 2-42, said device comprising at least two ports (Fig 2, Ref 202, 206, 204 and 208 and Fig 4) for receiving said at least two data signals, a port scanning unit (Fig 2, Ref 110) for extracting data from the data signals received by said ports providing data streams having at least two different input data rates (Fig 2, Ref 110 for extracting the data information from the FiFo 206 and 208, Col. 3, line 44 to col. 4, line 46, Col. 5, lines 1-65); a control logic unit functionally connected to said port scanning unit for determining which of said at least two ports need to be handled within which clock cycle with regard to its input data rate (Fig 2, Ref 210 is inherently disclose a control unit for receiving the fill levels of the buffers of the ports and generating the read signals for transmitting to the buffers of the ports for reading the data information based on the fill level of the buffers and the output clock cycle of the output interface, Fig 2, Ref 216 and See col. 4, lines 10-26); the control logic unit is configured to control said port scanning unit to access a port having a higher input data rate proportionally more often than a port having a lower input data rate for reading the data from FIFO and writing the data with a single clock speed (See col. 4, lines 10-26 and Fig 2, Ref 210 will access the higher input rate port OC-12 more frequently than the lower input rate port OC-3 based on the received fill levels and generating a read signal for reading data from FIFO into the mapping device with a single clock speed "output period", See col. 7, lines 41-61, each FIFO is assigned some read cycles for using to read the data into mapper device). However, Solheim fails to disclose a central buffer connected to said port scanning unit into which data from all ports are

written. Solheim fails to disclose a central buffer connected to said port scanning unit into which data from all ports are written. In the same field of endeavor, Goodman discloses a buffer (Fig 4, Ref 490) which couples to a selector "port scanning" for storing the incoming signals from the ports according to the input rate or temporarily storing data is performed according to the FIFO (Fig 4, Ref 490) concept with a speed corresponding to the input data rate of the connected port or writing data from all ports are written in a central buffer (Fig 4, ref 490) . (Fig 4, See col. 9, lines 50 to col. 10, lines 13, the incoming data of the input port is written into the buffer and reading them from the buffer into output port according the input clock and output clock).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a buffer for storing the incoming signals or temporarily storing data is performed according to the FIFO concept with a speed corresponding to the input data rate of the connected port or writing data from all ports are written in a central buffer as disclosed by Gooman's system and method into Solheim's method and system such as the buffer is integrated into a mapper device in order to matching the rates between the inputs and a output frame. The motivation would have been to prevent data loss by bridging the clock of incoming signal with the output signal.

Regarding claims 9 and 20, Solheim discloses at least two demultiplexing units associated to each port, whereby the resulting data width of a demultiplexing unit is proportionally larger at a port having a higher input data rate (Fig 2, Ref 202 and 204 demultiplex the receiving signals into N parallel signals for storing into the FiFo, the N signal is based on input rate of the input signals such OC-3 or OC-12; See col. 5, lines 1-12).

Regarding claims 10 and 21, Solheim discloses Solheim discloses a method and device (Fig 2) for combining at least two data signals having an input data rate into a single data stream having an output data rate being higher than the input data rate for transmission on a shared medium or vice versa (Col 1, line 60 to col. 2, line 2-42, said device comprising at least two ports (Fig 2, Ref 202, 206, 204 and 208 and Fig 4) for receiving said at least two data signals, a port scanning unit (Fig 2, Ref 110) for extracting data from the data signals received by said ports providing data streams having at least two different input data rates (Fig 2, Ref 110 for extracting the data information from the FiFo 206 and 208, Col. 3, line 44 to col. 4, line 46, Col. 5, lines 1-65); a control logic unit functionally connected to said port scanning unit for determining which of said at least two ports need to be handled within which clock cycle with regard to its input data rate (Fig 2, Ref 210 is inherently disclose a control unit for receiving the fill levels of the buffers of the ports and generating the read signals for transmitting to the buffers of the ports for reading the data information based on the fill level of the buffers and the output clock cycle of the output interface, Fig 2, Ref 216 and See col. 4, lines 10-26); reading per access from all ports the same amount of data and writing the data from a port having a higher input data rate proportionally more often into said mapping device from a port having a lower input data rate (See col. 4, lines 10-26 and Fig 2, Ref 210 will access the higher input rate port OC-12 more frequently than the lower input rate port OC-3 based on the received fill levels and generating a read signal for reading data from FIFO into the mapping device based on read cycles assigned to the ports, So each read cycle will read the same amount data from each port and the port with higher rate will be accessed more frequently than the lower rate port, See col. 7, lines 42-64). Solheim fails to disclose a central buffer connected to said port scanning unit into

which data from all ports are written. In the same field of endeavor, Goodman discloses a buffer (Fig 4, Ref 490) which couples to a selector "port scanning" for storing the incoming signals from the ports according to the input rate or temporarily storing data is performed according to the FIFO (Fig 4, Ref 490) concept with a speed corresponding to the input data rate of the connected port or writing data from all ports are written in a central buffer (Fig 4, ref 490) . (Fig 4, See col. 9, lines 50 to col. 10, lines 13, the incoming data of the input port is written into the buffer and reading them from the buffer into output port according the input clock and output clock).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a buffer for storing the incoming signals or temporarily storing data is performed according to the FIFO concept with a speed corresponding to the input data rate of the connected port or writing data from all ports are written in a central buffer as disclosed by Gooman's system and method into Solheim's method and system such as the buffer is integrated into a mapper device in order to matching the rates between the inputs and a output frame. The motivation would have been to prevent data loss by bridging the clock of incoming signal with the output signal.

Allowable Subject Matter

7. Claim 23-28 allowed.

8. Claims 11 and 22 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 4/6/06 have been fully considered but they are not persuasive.

10. In response to pages 10-13, the applicant states that Solheim does not disclose a control logic unit functionally connected to a port scanning unit for determining which of said at least two ports need to be handled within which clock cycle with regard to its input data rate. In reply, Solheim discloses a frame generation and read logic which performs a port scanning based on the fill levels and generating a read signal based on the fill level "input rate" in order to transfer the stored incoming data from the port onto the output link according to clock cycle. So, Solheim clearly discloses a control unit which coupled to the port scanning, receive the fill levels "input rate" of the ports in order to determine which of ports need to be transferred data to the output link within clock cycle "output period" regard to its fill level (See col. 4, lines 10-26).

11. In response to page 12, the applicant states that Solheim does not disclose at least two demultiplexing units for converting the at least two data signals into a parallel data stream of a predetermined width. In reply, Solheim discloses at least two multiplexer for receiving the O in-1 and in-2 and converting them into a parallel data stream with a predetermined width (D1, N bits, parallel data stream with predetermined width), See Fig 3.

12. In response to page 14, the applicant states that Solheim does not disclose the claimed invention. In reply, Solheim discloses the claimed invention because the FIFO must configured to operate with a speed of the input rate of the connection (See col. 6, lines 60-66, the buffer is operate with a speed that corresponds to the input rate when an input signal de-multiplexed into a parallel signals before storing to the buffer.

13. In response to pages 15-17, the applicant states that Goodman fails to disclose a language of the claimed such as a central buffer connected to port scanning unit into which data from the ports are written. In reply, Goodman discloses a FIFO 490 of Fig 1 connected to the port-scanning unit 470 for storing the data from the ports 400, 410 and 420. Futhermore, the applicant states that Solheim does not disclose a control logic unit functionally connected to a port scanning unit for determining which of said at least two ports need to be handled within which clock cycle with regard to its input data rate, See Para 10.

14. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art or the nature of the problem to be solved. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Solheim discloses a frame generation and read unit is inherently disclosed a buffer for storing the information payload and attaching an overhead information to the frame before transmitting it. Goodman discloses a central buffer for storing the information of the ports before inputting them into a SONET frame. The motivation would have been to prevent data loss by bridging the clock of incoming signal with the output signal.

15. In response to pages 17-20, the applicant states that the prior arts fail to disclose the control unit is configured to control port scanning unit to read per access from a port having higher input data rate proportionally more data than from a port having a lower input data rate

and writing the data into a central buffer with a single clock speed or read per access from the ports the same amount of data and writing the data from a port having higher input data rate proportionally more into the central buffer than from a port having a lower input data rate. In reply, Solheim discloses a output clock speed is divided into the read cycles which allocated to the buffer of the ports based on the input rate "fill level" in order to read the data from ports within a single read cycle wherein the port that has higher input rate, will transfer more data than the low input rate port, See col. 7, lines 41-62.

16. In response to page 20-21, he applicant states that the prior arts doe disclose a language a width proportionally larger at a port having a higher input rate. In reply, Solheim discloses a demultiplexer for receiving a input signal has a rate and demultiplexing it into n signals wherein N must be proportional with input rate.

17. In response to applicant's argument in page 22-23 that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art or the nature of the problem to be solved. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Solheim discloses a frame generation and read unit is inherently disclosed a buffer for storing the information payload and attaching an overhead information to the frame before transmitting it. Goodman discloses a central buffer for storing the information of the ports before inputting them into a SONET frame. The motivation would have been to prevent data loss by bridging the clock of incoming signal with the output

signal because Solheim implicitly discloses a buffer for storing the information payload before attaching overhead.

18.

Conclusion

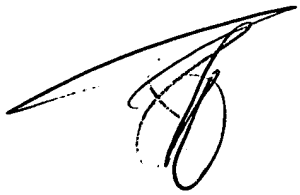
19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (571) 272-3159. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Steven HD Nguyen
Primary Examiner
Art Unit 2616
June 11, 2006